



“The Joys of Testing!”

Mr. Kelly W. Elder

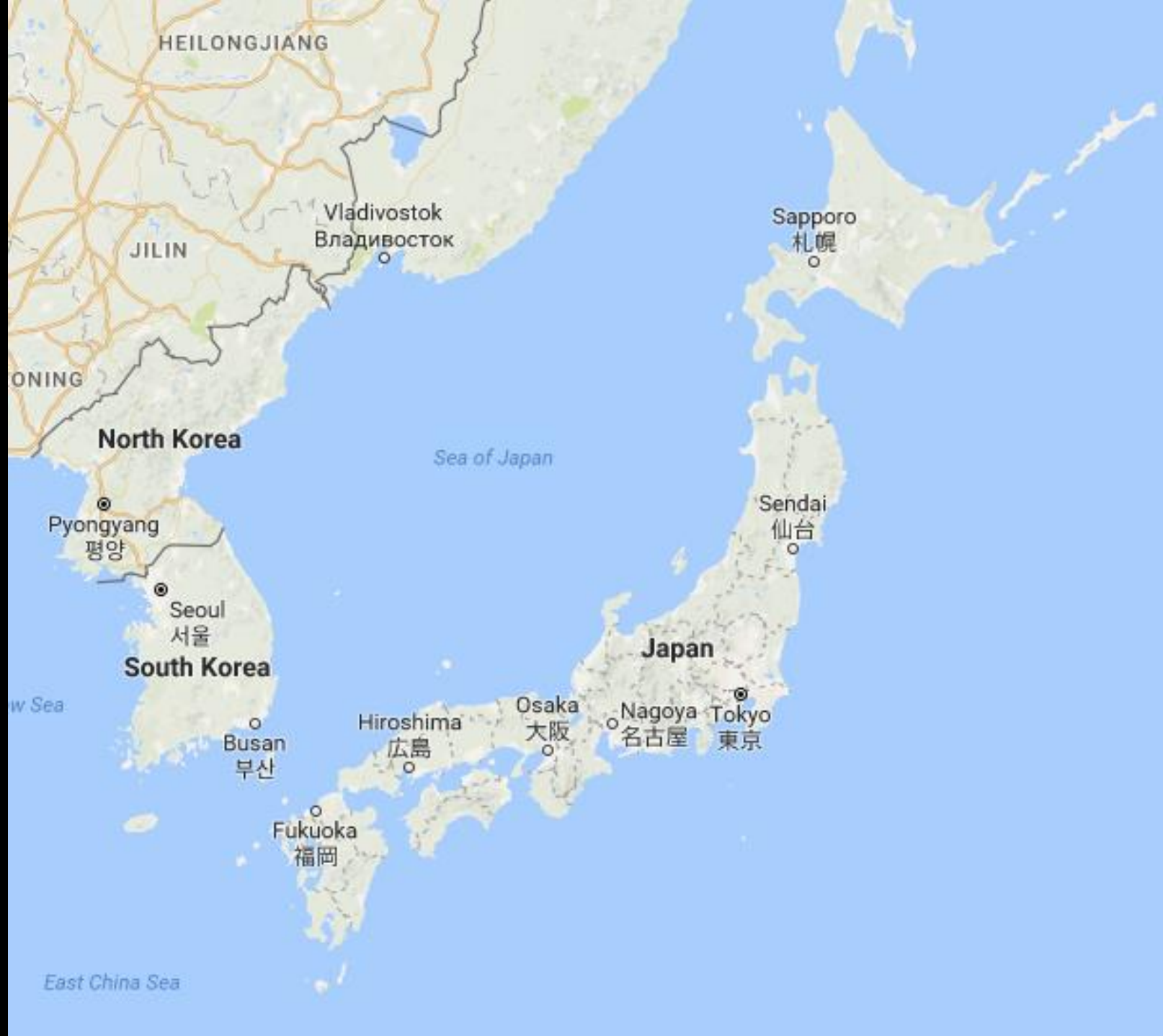
2017 Montana Teacher of the Year
6th Grade Geography Educator, BiCEP Team
C.R. Anderson Middle School
Helena, MT USA

2017 OPI Assessment & Data Conference



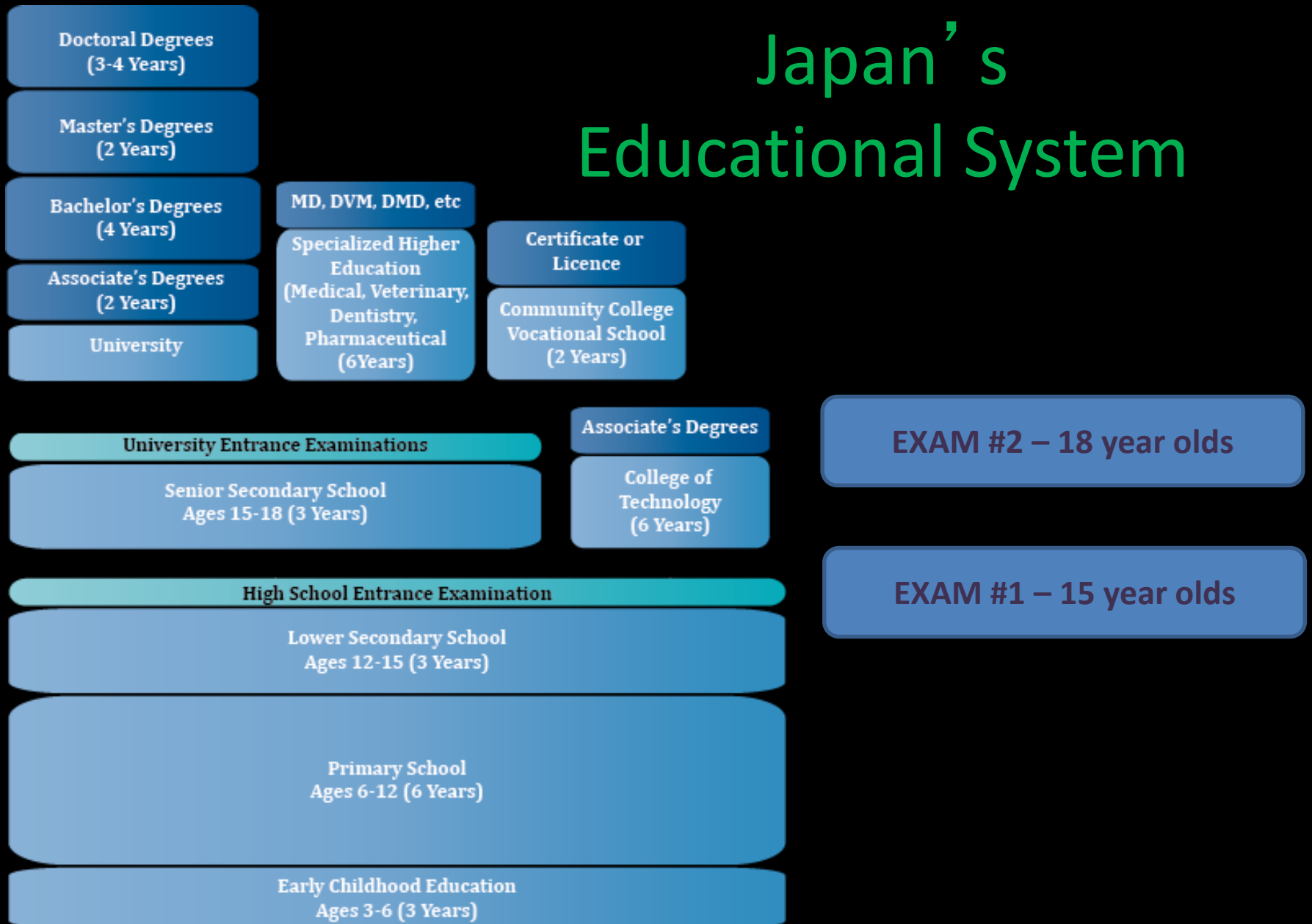
Kumamoto, Japan







Japan's Educational System



High School Entrance Exams – Kumamoto Prefecture

1. Daiichi Kotogakko
2. Daini Kotogakko
3. Tamana Kotogakko (Girls Only)

Bottom: Yushinkan High School

Fergus High School

Lewistown, MT



C.R. Anderson Middle School



How does all of this relate to assessment today?

- Early Career
- Transformation
- Where I'm at today...

Early Career – Fergus High

- TESTING
 - 33 M/C Questions, 3 pts. Each.
 - 1 pt. for name/period.
 - 100 points total.
 - Hole punch answers to create an overlay.
 - Scantrons
 - Memorize, right/wrong... Move on (and forget most of the material)

The Masters Experience

- James Madison Fellow, Class of 2000
- Year Leave of Absence
- First at UM under Dr. Jim Lopach, Dr. Mike Laslovich, and so many others...
- Then at Georgetown, wrestling with the positions of the Federalists and the Anti-Federalists and the forming of our nation.
- What did I think? What did I believe? Why?

Philosophy Evolved...

- Develop skills to gather information.
- Posit an assertion.
- Back that assertion up with textual evidence.
- Effectively communicate your ideas in written and oral form.

What is Assessment Doing for Montana's Students?

- Assessment today demands that students collect, synthesize, summarize, and draw conclusions from multiple sources or perspectives.
- Students can no longer settle for the 'right answer.'
- How students frame the answer has become increasingly important.
 - I.e., 10-Word Summary
- The pace of change may not be as fast as some would like to see, but the focus of instruction is shifting.
- We no longer need to memorize information available on our phones daily. We need to develop skills that allow young people to come to their own conclusions and understand why.
- We see this change in any number of academic subjects.

Is this more than just English
and Math?

- *Absolutely!!*

Non-scientific Case Example

- 3 English classes, same instructor.
 - 2 classes have science courses that emphasize annotating and writing summaries of current scientific topics (Science Journals, NPR, etc.).
 - 1 class is learning in a more traditional “read the article and answer the questions” fashion.
 - Both are getting master teaching/content. But...

STAR Reading Test Results

Sept. '16 to Jan. '17

| Standard Score | Class 1 (23 of 25 students) | Class 2 (23 of 23 Students) | Class 3 (24 of 24 Students) | |
|----------------|--------------------------------|--------------------------------|--------------------------------|---|
| 09/09/2016 | 997 | 903 | 956 | |
| 01/11/2017 | 1040 | 960 | 925 | |
| Change | +43 | +57 | -31 | |
| | YES | YES | | Science Class Incorporating Annotations/S ummaries |

Check
this
out!

| | actual fact | Paraphrase |
|----|--|---|
| 1. | Kidneys are essential for life. | Kidney are very important to life. |
| 2. | Kidneys can fail for a variety of reasons, including poison, infections, and other diseases. | Kidneys can fail you if you don't take care of them. They can fail because of poison, diseases and, infections. |
| 3. | There are only two options and these have been the same for 50 years. | There have only been two ways to fix a kidney in 50 years. |
| 4. | You either have to transplant or go onto dialysis. | You only have two options when replacing your kidney: a transplant or dialysis. |
| 5. | Almost 10 years ago it was known that you could take any cell from anybody. | 10 years ago it was known that you could take any cell from any body. |
| 6. | They were able to create some but not all of the key structures for the kidneys. | Scientists were able to make parts of the kidney but not all of the major parts of it. |
| 7. | The kidneys were only able to function since part of itself. | The kidney that the scientists made had some functions but not all functions. |

5 Dec. 2016

How Many Cells Are In Your Body?

The *National Geographic* article "How Many Cells Are In Your Body?" explains the various methods used by scientists to determine the number of cells in a human body. If you counted 10 cells every second it would take tens of thousands of years to be able to count every cell in your body. Scientists theorize that one cell is equivalent to one nanogram; this means, on an average man who weighs 70 kg, would have 70 trillion cells in/on his body. Another theory scientists have discussed is when they determined the volume of one cell they can figure total number of cells. The volume of a cell is equal to 0.000000004 cm^3 . Since the average man weighs 70 kg, this would equal approximately 15 trillion cells in/on the body. These two completely different answers show that it is difficult to determine the exact amount of cells in a human body. Because of the different answers, yet another set of scientists counted cells on the skin, gall bladder, intestines, knee joints, bone marrow and a variety of other tissues and came up with an approximate number of 37.2 trillion cells. Scientists have determined this is the best answer, but they need to continue to research in order to come up with an even more precise way to determine the amount of cells in a human body.

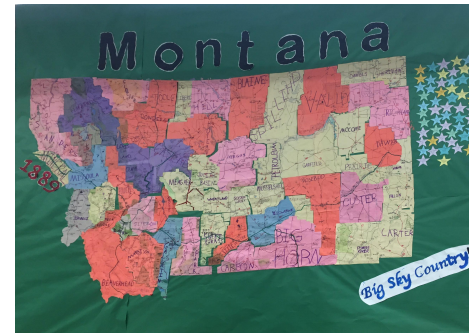
Work Cited

Zimmer, Carl. "How Many Cells Are In Your Body?" *National Geographic*. National Geographic Partners. LLC. 2015-2016. WEB. 2 Dec. 2016.

... which
becomes
this!

In Social Studies:

- Case studies of urban sprawl in North America related back to challenges facing our community with growth.
- Debating the future of the Great Lakes: The Boomers vs. The Doomers.
- Amazon Rainforests – balancing competing interests.
- Spatial Inequality in Mexico City... haves and have-nots.
- Wall Map of Our State!
- Cross-Curricular Local History Project.
 - Annotating
 - Summarizing/organizing
 - Concept mapping and writing
 - Publishing and Filming...
- Whether it is through field experiences or within the classroom, we are focused on developing skills within our students to learn and express themselves!

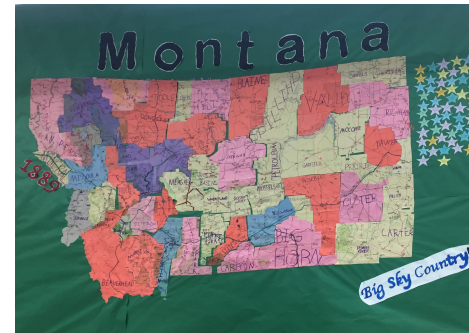


Montana



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Mapping Activities...



Challenge: Where?

STUDENT HANDOUT NAME: Mena Green PER.: 1 3 4 6 7

Scorach Paper

Challenge 3: Using Geography Skills to Answer "Where?"

MAPPING LAB

lol Wow!!

| Question | Circle the thematic map you used. Then answer the question in complete sentences. |
|----------|--|
| 1 10 | Physical Features Climate Zones Vegetation Zones <u>Population Density</u> Economic Activity Can+USA largest densely Pop. area four 250+ people/Sq. mile. Cities East coast, NYC, DC, Boston, Phil. |
| 2 | Physical Features Climate Zones Vegetation Zones Population Density Economic Activity rate All climates: Arid, Semiarid, Mediterranean, highlands. 2d marine West Coast California |
| 3 | Physical Features Climate Zones Vegetation Zones Population Density <u>Economic Activity</u> hat resources are most abundant in: Texas, Alaska, Alberta? Oil, Petroleum (oil), Texas, Alaska, Petroleum (oil) |
| 4 | Physical Features <u>Climate Zones</u> Vegetation Zones Population Density Economic Activity which 4 territories and states have both a sub arctic and tundra climate and land that is both north and south the Arctic Circle: Alaska, Yukon, Northwest, Nunavut |
| 5 | Physical Features Climate Zones <u>Vegetation Zones</u> Population Density Economic Activity what is the common type of vegetation in the area of Southern Canada and the USA States which country has more land with the type of vegetation? Coniferous forest in Canada |
| 6 | Physical Features Climate Zones Vegetation Zones Population Density Economic Activity and use accurate data better Pacific and Atlantic East of Can+USA Correlation |
| 7 | Physical Features Climate Zones Vegetation Zones Population Density Economic Activity which Canadian island has a population density that ranges from under 2 people to as many as 250 people per square mile Vancouver Island |
| 8 | Physical Features Climate Zones Vegetation Zones Population Density Economic Activity which five lakes make up the largest body of fresh water in Canada and the United States. Lake Erie, Lake Michigan, Lake Superior, Lake Huron, Lake Ontario |
| 9 9 | Physical Features Climate Zones <u>Vegetation Zones</u> Population Density Economic Activity Which Canadian provinces or territories are entirely covered in forests. What kind of forest are found there? Quebec, Ontario, Manitoba, Saskatchewan, Alberta, British Columbia, Yukon Territory, Northwest Territories |
| 10 14 | <u>Physical Features</u> Climate Zones Vegetation Zones Population Density Economic Activity which 10 provinces, territories, states the rocky mountain runs through. Colorado, Utah, Wyoming, Idaho, Montana, New Mexico, Arizona, Nevada, California, Oregon, Washington, Alaska, British Columbia, Northwest Territories, Yukon Territory |

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Canada and the United States 5

1 Canada and the United States Challenge 3

What is the largest area in Canada and the United States that is densely populated (over 250 people per square mile)? What are four cities in that area?

Challenge: Where?

Name: Vienna Green Answer Mr. Elder's Western Geography Class, CRA

Challenge 3: Using Geography Skills to Answer "Where?"

1. Map(s) used: Physical Features Climate Zones Vegetation Zones Population Density Economic Activity

The most densely populated area in Canada and the United States is the east coast of the United States, which has over 250 people per square mile. The four cities in this area are Boston, Washington DC, New York City, and Philadelphia.

2. Map(s) used: Physical Features Climate Zones Vegetation Zones Population Density Economic Activity

You can find all of the following climates in California: arid, Semiarid, Mediterranean, highlands, and marine West

1 Canada and the United States Challenge 3

What is the largest area in Canada and the United States that is densely populated (over 250 people per square mile)? What are four cities in that area?

Climate Zones Vegetation Zones Population Density Economic Activity

the most abundant resource in Texas. Texas has the most petroleum (oil).

Climate Zones Vegetation Zones Population Density Economic Activity

tory, Northwest Territories, and Nunavut have tundra climate and have land

both north and south of the Arctic circle.

5. Map(s) used: Physical Features Climate Zones Vegetation Zones Population Density Economic Activity

The most common type of vegetation in the Central area of Southern Canada and the United States is temperate grasslands. United States has more land with this vegetation.

3

Canada and the United States Challenge 4

Find the area of the continental United States that is least populated. What *physical features* might help explain why the population density is so low? How might *elevation* and *vegetation zones* also help explain the low population density?

4

Canada and the United States Challenge 4

Which of Canada's cities has the largest population? How might the *climate* and *economic activity* of the area help explain why so many people live there?

5

Canada and the United States Challenge 4

A farmer grows sugarcane, a crop that does well only in a *humid subtropical climate* with other *tropical grassland* vegetation. In his free time, he loves to go sailing on the ocean year-round. His farm is near a *densely populated* city that lies on a very *large river*. Where does the farmer live? Why do you think so?

6

Canada and the United States Challenge 4

In what city does this person live? Why do you think so? "My city is an urban area with more than four million people. Like many people here, I work in *manufacturing*. My brother is a commercial *fisherman*. We are surrounded by mountains, but also have many beautiful *beaches*. Our *Mediterranean climate* makes the weather generally mild. It rains occasionally. Sometimes we worry about *chaparral* fires in the nearby hills."

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